

Societies and Academies.

PARIS.

Academy of Sciences, September 20.—M. Léon Guignard in the chair.—H. Lecomte: The radial secretory canals of wood. The usual direction of these canals in the tissues of the stem and root is parallel to the length of the organ, but a system of radial secretory canals may, in a large number of plants, be superimposed on the longitudinal system. These radial canals have been noted by Trécul and others, but have hitherto been regarded as exceptional cases. In the genera *Pinus*, *Picea*, and *Larix* the radial canals are now found to be present in all cases, and numerous examples were also found in other species.—P. Humbert: Hypercylindrical functions in space of $n+2$ dimensions.—J. Soula: Remarks on the investigation of the singular points of a function defined by a development in Taylor's series.—J. Andrade: The geometrical interpretation of the Résal-Caspari method.—A. Veronnet: Values of the flattening of the earth obtained by calculation and by measurement.—A. Buhl: The formula of Stokes in space-time.—M. Flajole: Perturbations of the magnetic declination at Lyons during the second half of 1919 and the first half of 1920. The observations are tabulated in six groups between calm days and perturbations greater than $30'$. On August 11, 1919, and March 4, 1920, the disturbances were very large and outside the scale of the recorder.—H. Coupin: The resistance of seedlings to starvation. The seedlings of seventeen species of plants grown in the dark in distilled water lived from fifteen to sixty days.—F. Viès: The production of difference spectra of toxin cultures. Further study of the changes produced in the absorption spectra of toxin cultures by heating and by the addition of antitoxin.—C. Lebailly: The prevention and treatment of aphthous fever by the serum or blood of cured animals. Experiments were made on more than five hundred animals. The immunity produced by the injection was of very short duration, in some cases less than fifteen days. Good results were obtained in the treatment of infected animals, provided that the injections were made as soon as possible after the disease was recognised.

CAPE TOWN.

Royal Society of South Africa, August 18.—Dr. A. Ogg, vice-president, in the chair.—P. A. van der Bijl: Note on *Lysurus Woodii* (MacOwan), Lloyd. The fungus described was found in a rhubarb trench in Natal. It is entirely distinct from the genus *Anthurus*.—C. Pijper: A prehistoric rock-sculpture from the North-Eastern Transvaal. Circular and semicircular stone markings are described, with photographs, from the Lijdenburg district, not far from stones engraved with cup-and-ring markings, which the author has previously described.—J. Moir: Colour and chemical constitution, part xii. The calculation of colour from the tautomeric theory. Assuming that the tautomerism $C\cdot C\cdot OH \rightarrow CH\cdot C\cdot O$ has the value λ_{94} , the tautomerism $C\cdot C\cdot NH_2 \rightarrow CH\cdot C\cdot NH$ the value λ_{98} , and the tautomerism $C\cdot C\cdot CH_3 \rightarrow CH\cdot C\cdot CH$ the value λ_{103} , it is shown that the molecule of a coloured substance can generally be dissected into tautomeric pieces, loaded with non-tautomeric portions which have very little effect on the colour (λ_7 to 20 only). On adding up the values of all the pieces the result agrees closely with the λ observed in the coloured substance. Yellow and orange substances have 3 or 4 tautomerisms, pink and purple substances 4 or 5, and blue and green substances 5 or 6.

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SYDNEY.

Royal Society of New South Wales, August 4.—Mr. James Nangle, president, in the chair.—Dr. W. G. Woolnough: A geological reconnaissance of the Stirling Ranges of Western Australia. The Stirling Range is an isolated mountain block situated about sixty miles north of Albany. It is composed of interbedded quartzites and slates, devoid of fossils, and probably Proterozoic in age. While locally folded, faulted, and overthrust, the rocks are mostly horizontally stratified. The sedimentary formations are surrounded by a vast expanse of gneissic rocks, probably Archæozoic in age. After discussing the various possible explanations of the structural features observed, the author arrives at the conclusion that the sedimentary rocks were originally preserved in a long east-west fault trough, and suffered peneplanation with the rest of the "Darling Plateau" of Western Australia. Later, on the uplift of the peneplane, the old fault planes were rejuvenated, with the result that the original senkungs-feld was converted into a horst. A generalisation, which may be of far-reaching importance, is suggested, namely, that the granites of Australia lying west of a line joining Adelaide with Cloncurry are all Pre-Cambrian in age.—R. H. Cambage and H. Selkirk: Early drawings of an aboriginal ceremonial ground. The rough drawings were made by Surveyor-General Oxley in his field-book at Moreton Bay in 1824, and show the plan of a spot, as Oxley writes, "where the natives meet after a war with adverse tribes to make peace." This appears to be the first drawing showing the lay-out of a ceremonial ground of this nature in Australia, and has remained in obscurity for ninety-six years.

Books Received.

- Commercial Arithmetic and Accounts. By H. H. Green and T. Franklin. With Answers. Pp. xi+337+xxxiv. (London: Macmillan and Co., Ltd.) 6s.
- Matter and Motion. By the late Prof. J. Clerk Maxwell. Reprinted with Notes and Appendices by Sir Joseph Larmor. Pp. xv+163. (London: S.P.C.K.; New York: The Macmillan Co.) 5s. net.
- The System of Animate Nature. The Gifford Lectures Delivered in the University of St. Andrews in the Years 1915 and 1916. By Prof. J. Arthur Thomson. Vol. i. Pp. xi+348. Vol. ii. Pp. v+349+687. (London: Williams and Norgate.) 30s. net.
- The Natural History of South Africa. Mammals. By F. W. Fitzsimons. Vol. iii. Pp. xiii+278. Vol. iv. Pp. xix+271. (London: Longmans, Green and Co.) 12s. 6d. each vol.
- Principles and Practice of Operative Dentistry. By Dr. J. S. Marshall. Fifth edition. Pp. xxix+711+xvi plates. (Philadelphia and London: J. B. Lippincott Co.) 35s. net.
- Pure Mathematics for Engineers. By S. B. Gates. Part i. Pp. xi+191. Part ii. Pp. xi+179. (London: Hodder and Stoughton.) 4s. 6d. net each vol.
- Reminiscences and Anticipations. By Prof. J. Joly. Pp. 264. (London: T. Fisher Unwin, Ltd.) 15s. net.
- Memoirs of the Geological Survey, Scotland. The Economic Geology of the Central Coalfield of Scotland. Area iv., Paisley, Barrhead, Renfrew, and the Western Suburbs of Glasgow North and South of the Clyde. By L. W. Hinxman, E. M. Anderson, and R. G. Carruthers. Pp. iv+110+viii plates. (Edinburgh: H.M. Stationery Office; London: E. Stanford, Ltd.) 6s. net.

The Case against the Lloyd George Coalition. By H. Storey. Pp. v+103. (London: G. Allen and Unwin, Ltd.) 1s. net.

Historical Geography of Britain and the British Empire. (In two books.) By T. Franklin. Book ii., The Expansion and Consolidation of the British Empire, A.D. 1800 to Present Day. Pp. viii+152. (Edinburgh: W. and A. K. Johnston, Ltd.; London: Macmillan and Co., Ltd.) 2s. net.

Primitive Time-Reckoning. By Prof. M. P. Nilsson. Pp. xiii+384. (Lund: C. W. K. Gleerup; London: Oxford University Press.) 21s. net.

The Life of Ronald Poulton. By his Father, Edward B. Poulton. Pp. xi+410. (London: Sidgwick and Jackson, Ltd.) 16s. net.

Phenomena of Materialisation. By Baron von Schrenck Notzing. Translated by Dr. E. E. Fournier d'Albe. Pp. xii+340. (London: Kegan Paul and Co., Ltd.) 35s. net.

Memoirs and Proceedings of the Manchester Literary and Philosophical Society. Vol. lxi. (1918-19). (Manchester.) 12s.

The Cambridge Pocket Diary, 1920-21. Pp. xv+269. (Cambridge: At the University Press.) 3s. net.

The Elements of Plane Geometry. By Dr. C. Davison. Pp. viii+280. With Answers. (Cambridge: At the University Press.) 10s. net.

The Principles of the Phase Theory: Heterogeneous Equilibria between Salts and their Aqueous Solutions. By Dr. D. A. Clibbens. Pp. xx+383. (London: Macmillan and Co., Ltd.) 25s. net.

The Psychology of Childhood. By Dr. N. Norsworthy and Dr. M. T. Whitley. Pp. xix+375. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd.) 10s. net.

Educational Psychology. By Dr. D. Starch. Pp. xi+473. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd.) 14s. net.

Practical Chemistry: Fundamental Facts and Applications to Modern Life. By N. H. Black and Dr. J. B. Conant. Pp. xi+474. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd.) 11s. net.

A Study in Realism. By Prof. J. Laird. Pp. xii+228. (Cambridge: At the University Press.) 14s. net.

An Outline of Physics. By L. Southern. Pp. xv+202. (London: Methuen and Co., Ltd.) 6s. 6d.

Papers Set in the Mechanical Sciences Tripos, 1912, 1913, 1914, 1915, 1916. Pp. iv+57. (Cambridge: At the University Press.) 4s. net.

Diary of Societies.

THURSDAY, OCTOBER 14.

OPTICAL SOCIETY (at Imperial College of Science and Technology), at 7.30.—H. A. Hughes and P. F. Everitt: The Field of View of a Galilean Telescope.—B. K. Johnson: The Calibration of the Divided Circle of a Large Spectrometer.

INSTITUTION OF AUTOMOBILE ENGINEERS (at 28 Victoria Street), at 8.—Graduates' Meeting. Messrs. Chatterton and Watson: Factors affecting Power Output.

ROYAL SOCIETY OF MEDICINE (Neurology Section), at 8.30.—Dr. E. S. Reynolds: (Presidential Address), The Causes of Nervous Disease.

FRIDAY, OCTOBER 15.

ROYAL SOCIETY OF ARTS (Indian Section), at 4.30.—T. M. Ainscough: British Trade with India.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—Prof. A. Keith: Demonstration on the Contents of the Museum.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.—A. Keighley: An Evening in Lakeland.

JUNIOR INSTITUTION OF ENGINEERS, at 8.—R. S. Fox: Elementary Physics and Chemistry in Relation to Motor Cars.

ROYAL SOCIETY OF MEDICINE (Electro-Therapeutics Section), at 8.30.—S. Gilbert Scott: Presidential Address.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, at 8.30.

SATURDAY, OCTOBER 16.

PHYSIOLOGICAL SOCIETY (at Guy's Hospital), at 4.

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MONDAY, OCTOBER 18.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, at 4.—Sir Frederick Andrewes: Harveian Oration.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—Prof. S. G. Shattock: Demonstration of Pathological Specimens in the Museum.

TUESDAY, OCTOBER 19.

ROYAL HORTICULTURAL SOCIETY, at 3.

INSTITUTION OF PETROLEUM TECHNOLOGISTS (at Royal Society of Arts), at 5.30.—Sir Arthur Meo. Duckham: Coal as a Future Source of Oil Fuel Supply.

ZOOLOGICAL SOCIETY OF LONDON, at 5.30.—Dr. P. Chalmers Mitchell: Report on the Additions made to the Society's Menagerie during the months of June, July, August and September.—Dr. E. H. Hanfkin: Observations on the Flight of Flying-Fishes.—Dr. W. N. F. Woodland: Some Results of Ligaturing the Anterior Abdominal Vein in the Indian Toad (*Bufo stomaticus*).—G. Cotterell: Life-History of the Yellow Dung-Fly: a Blow-Fly Check. ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.—E. W. H. Piper: Amiens Cathedral.

WEDNESDAY, OCTOBER 20.

ENTOMOLOGICAL SOCIETY OF LONDON, at 8.

ROYAL MICROSCOPICAL SOCIETY, at 8.

THURSDAY, OCTOBER 21.

ROYAL AERONAUTICAL SOCIETY (at Royal Society of Arts), at 5.30.—Squad-Ldr. R. M. Hill: A Comparison of the Flying Qualities of Single- and Twin-engined Aeroplanes.—C. Baker: Night Flying.

INSTITUTION OF MINING AND METALLURGY (at Geological Society), at 5.45.—J. Morrow Campbell: The Origin of Primary Ore Deposits.

CHILD-STUDY SOCIETY (at Royal Sanitary Institute), at 6.—Dr. A. R. Abelson: A Psychological Study of the Delinquent Child.

FRIDAY, OCTOBER 22.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, at 5.—Prof. A. Keith: Demonstration on the Contents of the Museum.

INSTITUTION OF MECHANICAL ENGINEERS, at 6.—Capt. H. Riall Sankey: Presidential Address.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.—F. Martin Duncan: Birds and Beasts from many Lands.

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